Claims

What is claims is:

1. A method of dynamically adapting wireless link parameters, comprising:

determining a measure of errors occurring in communication over a wireless link;

in a case that the measure of errors corresponds to more errors than a first predetermined threshold, changing from a first set of wireless link parameters to a second set of wireless link parameters, the second set of wireless link parameters corresponding higher error tolerance than the first set of wireless link parameters; and

in a case that the measure of errors corresponds to fewer errors than a second predetermined threshold, changing from the first set of wireless link parameters to a third set of wireless link parameters, the third set of wireless link parameters corresponding to lower error tolerance than the first set of wireless link parameters.

2. A method as in claim 1, wherein the measure of errors is determined by monitoring a number of NACK messages and a number of ACK messages that occur.

3. A method as in claim 2, wherein it is determined that the measure of errors corresponds to more errors than the first predetermined threshold when more than a predetermined number of NACK messages occur in succession.

4. A method as in claim 2, wherein it is determined that the measure of errors corresponds to fewer errors than the second predetermined threshold when more than a predetermined number of ACK messages occur in succession.

5. A method as in claim 1, wherein each set of wireless link parameters includes a modulation scheme.

6. A method as in claim 1, wherein each set of wireless link parameters includes a symbol rate.

7. A method as in claim 1, wherein each set of wireless link parameters includes an error correction scheme.

8. A method as in claim 1, wherein each set of wireless link parameters includes a modulation scheme, a symbol rate, and an error correction scheme.

9. A method as in claim 8, wherein the modulation scheme is Quadrature Amplitude Modulation or Quadrature Phase Shift Keying, the symbol rate is high symbol rate or low symbol rate, and the error correction scheme is high forward error correction or low forward error correction.

10. A method as in claim 1, wherein each set of wireless link parameters corresponds to a relationship between throughput efficiency and error rate;

wherein the first predetermined threshold corresponds to where the relationship for the first set of wireless link parameters intersects the relationship for the second set of wireless link parameters; and

wherein the second predetermined threshold corresponds to where the relationship for the first set of wireless link parameters intersects the relationship for the third set of wireless link parameters.

11. An apparatus that dynamically adapts wireless link parameters, comprising:

a wireless link interface to a wireless link;

a processor; and

a memory storing instructions executable by the process to control communication over the wireless link interface, the instructions including the steps of: (a) determining a measure of errors occurring in communication over the wireless link; (b) in a case that the measure of errors corresponds to more errors than a first predetermined threshold, changing from a first set of wireless link parameters to a second set of wireless link parameters, the second set of wireless link parameters corresponding to higher error tolerance than the first set of wireless link parameters; and (c) in a case that the measure of errors corresponds to fewer errors than a second predetermined threshold, changing from the first set of wireless link parameters to a third set of wireless link parameters, the third set of wireless link parameters corresponding to lower error tolerance than the first set of wireless link parameters.

12. An apparatus as in claim 11, wherein the measure of errors is determined by monitoring a number of NACK messages and a number of ACK messages that occur.

13. An apparatus as in claim 12, wherein it is determined that the measure of errors corresponds to more errors than the first predetermined threshold when more than a predetermined number of NACK messages occur in succession.

14. An apparatus as in claim 12, wherein it is determined that the measure of errors corresponds to fewer errors than the second predetermined threshold when more than a predetermined number of ACK messages occur in succession.

15. An apparatus as in claim 11, wherein each set of wireless link parameters includes a modulation scheme.

16. An apparatus as in claim 11, wherein each set of wireless link parameters includes a symbol rate.

17. An apparatus as in claim 11, wherein each set of wireless link parameters includes an error correction scheme.

18. An apparatus as in claim 11, wherein each set of wireless link parameters includes a modulation scheme, a symbol rate, and an error correction scheme.

19. An apparatus as in claim 18, wherein the modulation scheme is Quadrature Amplitude Modulation or Quadrature Phase Shift Keying, the symbol rate is high symbol rate or low symbol rate, and the error correction scheme is high forward error correction or low forward error correction.

20. An apparatus as in claim 11, wherein each set of wireless link parameters corresponds to a relationship between throughput efficiency and error rate;

wherein the first predetermined threshold corresponds to where the relationship for the first set of wireless link parameters intersects the relationship for the second set of wireless link parameters; and

wherein the second predetermined threshold corresponds to where the relationship for the first set of wireless link parameters intersects the relationship for the third set of wireless link parameters.

21. A memory including instructions, the instructions executable by a processor to dynamically adapt wireless link parameters, the instructions comprising the steps of:

determining a measure of errors occurring in communication over a wireless link;

in a case that the measure of errors corresponds to more errors than a first predetermined threshold, changing from a first set of wireless link parameters to a second set of wireless link parameters, the second set of wireless link parameters corresponding to higher error tolerance than the first set of wireless link parameters; and

in a case that the measure of errors corresponds to fewer errors than a second predetermined threshold, changing from the first set of wireless link parameters to a third set of wireless link parameters, the third set of wireless link parameters corresponding to lower error tolerance than the first set of wireless link parameters.

22. A memory as in claim 1, wherein the measure of errors is determined by monitoring a number of NACK messages and a number of ACK messages that occur.

23. A memory as in claim 2, wherein it is determined that the measure of errors corresponds to more errors than the first predetermined threshold when more than a predetermined number of NACK messages occur in succession.

24. A memory as in claim 2, wherein it is determined that the measure of errors corresponds to fewer errors than the second predetermined threshold when more than a predetermined number of ACK messages occur in succession.

25. A memory as in claim 1, wherein each set of wireless link parameters includes a modulation scheme.

26. A memory as in claim 1, wherein each set of wireless link parameters includes a symbol rate.

27. A memory as in claim 1, wherein each set of wireless link parameters includes an error correction scheme.

28. A memory as in claim 1, wherein each set of wireless link parameters includes a modulation scheme, a symbol rate, and an error correction scheme.

29. A memory as in claim 8, wherein the modulation scheme is Quadrature Amplitude Modulation or Quadrature Phase Shift Keying, the symbol rate is high symbol rate or low symbol rate, and the error correction scheme is high forward error correction or low forward error correction.

30. A memory as in claim 1, wherein each set of wireless link parameters corresponds to a relationship between throughput efficiency and error rate;

wherein the first predetermined threshold corresponds to where the relationship for the first set of wireless link parameters intersects the relationship for the second set of wireless link parameters; and

wherein the second predetermined threshold corresponds to where the relationship for the first set of wireless link parameters intersects the relationship for the third set of wireless link parameters.

31. An apparatus that dynamically adapts wireless link parameters, comprising:

means for determining a measure of errors occurring in communication over a wireless link; and

means for changing, in a case that the measure of errors corresponds to more errors than a first predetermined threshold, from a first set of wireless link parameters to a second set of wireless link parameters, the second set of wireless link parameters corresponding to higher error tolerance than the first set of wireless link parameters, and in a case that the measure of errors corresponds to fewer errors than a second predetermined threshold, from the first set of wireless link parameters to a third set of wireless link parameters, the third set of wireless link parameters corresponding to lower error tolerance than the first set of wireless link parameters.